UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/356,505	07/19/1999	HIDEYA TAKEO	Q55129	7922

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ART UNIT	PAPER NUMBER-
2623	

DATE MAILED: 11/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _24 July 2002_ .

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-30_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-30_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

        1.☒ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____ .

        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _2_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Response to Arguments

1.   Applicant's amendment paper #4 filed on 07/24/02 has been entered and made of record.

2.   Applicant has amended claims 5-9,14,15,20, and 21 and added 9 new claims (22-30).

3.   In response to applicants amendment filed on 07/24/02 examiner withdraws the objection to the drawings and to claims 5-9,14,15,20, and 21.

4.   Claims 4,13, and 19 were inadvertently placed in the 35USC 102 rejection as well as the 35USC 103 rejection. Examiner meant to only have these claims under a 35USC 103 rejection.

5.   Applicant's arguments filed 07/24/02 have been fully considered but they are not persuasive for the following reasons: Applicant alleges that Kolesnik et al. fails to teach " a classification means or classification step for classifying "the quantized data into data having a value representing the quantized data and at least one set of classified data representing a data value other than the representative value while obtaining classification information data regarding the classification." As shown in fig. 1, Kolesnik et al. teaches [,]" (paper #4 page8 lines 2-14). The examiner disagrees.

        Firstly Kolesnik et al. as shown in Fig. 1 shows quantization unit 110 that divides (classifies) the quantized data into two types of quantized data elements 120 and 125 according to correlation values (high or low) ("value representing

the quantized data"), a quantized coefficient matrix (" one set of classified data

representing a data value other than the representative value"), and a quantized

reference coefficients ("classification information data"). Secondly, there are no

definitions in the claim for these parameters that distinguish them over the

teachings of Kolesnik et al. Examiner refers to the rejection below.

Claim Objections

6.   Claims 26 and 27 are objected to because of the following informalities:

Claims 26 and 27 are method claims but are dependent from apparatus claims.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

7.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly
claiming the subject matter which the applicant regards as his invention.

Claim 9 recites the limitation "the third coding method". There is

insufficient antecedent basis for this limitation in the claim. This claim will be

addressed as best understood by the examiner.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35

U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless —

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors

Protection Act of 1999 (AIPA) do not apply to the examination of this application

as the application being examined was not (1) filed on or after November 29,

2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this

application is examined under 35 U.S.C. 102(e) prior to the amendment by the

AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-3,5-12,16-18, and 22-30 are rejected under 35 U.S.C. 102(e) as

being anticipated by Kolesnik et al. (U.S. patent 6,249,614).

Regarding claims 1, 10, and 16: Kolesnik et al. discloses a data

compression method (col. 1 lines 65-67) of obtaining compressed coded data by

quantization of original data (col. 2 lines 5-8, fig. 1 block 110) to obtain quantized

data followed by coding and compression (fig. 1 block 130 and 150 and col. 4

lines 17-18, 27-31, and 39-41, where the multiplexer compresses the data signal

after it is coded) of the quantized data, the data compression method comprising

the steps of:

classifying the quantized data into data having a value representing the

quantized data (col. 4 lines 1-5 and fig. 1 block 110 elements 120 and 125,

where the "quantized high and low correlation values" are the values

representing the data) and at least one set of classified data representing a data

value other than the representative value (col. 4 lines 17-26 and fig. 1, where the

quantized coefficient matrix are taken as the "classified data representing a data

value other than the representative value) while obtaining classification

information data regarding the classification (Fig. 1, quantized reference

coefficients are read as the "classification information data");

coding the classification information data according to a first coding

method (col. 4 lines 29-34, col. 10 lines 38-61, fig. 1 block 130, and fig. 12, where

the matrices are coded by different coding methods depending on the

classification of the matrices as dense, sparse, or zero); and

obtaining the coded data by coding at least the classified data according

to a second coding method, out of the classified data and the data having the

representative value (col. 4 lines 29-34, col. 10 lines 38-61, fig. 1 block 130, and

fig. 12, where the matrices are coding by different coding methods depending on

the classification of the matrices);

Regarding claims 2, 11, and 17: wherein the second coding method is

different between the data having the representative value and each set of the

classified data (col. 4 lines 29-34, col. 10 lines 38-61 and fig. 10 numbers 1005 –

1055, where different coding techniques are used depending on the classification

of the matrices and the quantized high and low values are encoded differently).

Regarding claims 3, 12, and 18: wherein the quantized data are obtained

by carrying out wavelet transform on the original data followed by quantization

thereof (col. 4 lines 49-54 and fig. 1 blocks 105 and 110, where the quantization

takes place after the signal has undergone a wavelet transform decomposition).

Regarding claims 5 and 14: A data compression method wherein the data

having the representative value are 0 data representing the value 0 of the

quantized data, and the classified data are non-zero data representing a

non-zero value of the quantized data (col. 4 lines 27-38, where the zero matrix is

taken as the representative value and the sparse and/or dense matrices is taken

as the nonzero values of the quantized data).

Regarding claim 6: A data compression method wherein the first coding

method is any one of Huffman coding, run length coding, B I coding, B2 coding,

Wyle coding, Golomb coding, Golomb-Rice coding, and binary arithmetic coding

(col. 13 lines 39-42).

Regarding claim 7: A data compression method wherein the second

coding method is any one of Huffman coding, universal coding, and multi-valued

arithmetic coding (col. 4 lines 17-38 and col. 13 lines 39-42, where Kolesnick et

al. teaches to use different coding methods, such as Huffman coding, to encode

data depending on the type of data).

Regarding claim 8: A data compression method wherein the coded data are obtained by coding the classified data according to a third coding method, out of the classification information data and/or the data having the representative value and the classified data, in the case where the amount of the coded data is larger than a predetermined information amount determined based on the original data (col. 4 lines 17-38, col. 11 lines 24-30 and col. 13 lines 39-42, where Kolesnick et al. teaches to use different coding methods, such as Huffman coding, to encode data depending on the type and size of data).

Regarding claim 9: A data compression method as claimed in claim 1, wherein the third coding method is any one of Huffman coding, arithmetic coding, and PCM coding (col. 4 lines 17-38 and col. 13 lines 39-42, where Kolesnick et al. teaches to use different coding methods, such as Huffman coding, to encode data depending on the type of data).

Regarding claim 15: A data compression apparatus comprising:

judging means for judging whether or not the amount of the coded data is larger than a predetermined information amount determined based on the original data (col. 11 lines 24-30, where the size of the information is determined); and

third coding means for obtaining the coded data by coding at least the classified data according to a third compression method, out of the classification information data and/or the data having the representative value and the classified data, in the case where the judging means has judged the amount of

the coded data to be larger than the predetermined information amount (col. 4

lines 17-38, col. 11 lines 24-30 and col. 13 lines 39-42, where Kolesnick et al.

teaches to use different coding methods, such as Huffman coding, to encode

data depending on the type and size of data).

Regarding claims 16-18: As for the limitation of a computer readable

recording medium used to perform limitations above (Kolesnik et al.; fig. 14

blocks 1405, 1410, and 1450).

Regarding claim 20: It is rejected for the same reasons as claim 5 and 14

above and as for the following limitation a computer-readable recording medium

(Kolesnik et al.; fig. 14 blocks 1405, 1410, and 1450).

Regarding claim 21: It is rejected for the same reasons as claim 8 and 15

above and as for the following limitation a computer-readable recording medium

(Kolesnik et al.; fig. 14 blocks 1405, 1410, and 1450).

Regarding claim 22,25,and 28: The data compression method wherein

said classification information data comprises a comparatively small information

amount (col. 4 lines 17-35, where the information data is classified as dense,

sparse, and zero matrices in which the zero matrix has little or no information).

Regarding claim 23,26, and 29: The data compression method wherein

said classification information data comprises 3-valued data (col. 4 lines 17-35,

where the information data is classified as dense, sparse, and zero

matrices/values).

Regarding claim 24,27, and 30: The data compression method wherein

said classification information data comprises binary data (col. 11 lines 1-3,

where the information has a binary representation).

Regarding claims 28-30: A computer-readable medium (Kolesnik et al.;

fig. 14 blocks 1405, 1410, and 1450).

Claim Rejections - 35 USC § 103

9.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for

all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set
forth in section 102 of this title, if the differences between the subject matter sought to be patented and
the prior art are such that the subject matter as a whole would have been obvious at the time the
invention was made to a person having ordinary skill in the art to which said subject matter pertains.
Patentability shall not be negatived by the manner in which the invention was made.

Claims 4,13, and 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Kolesnik et al. (U.S. patent 6,249,614) and Nafarich (U.S.

patent 6,252,994).

Regarding claims 4, 13, and 19: wherein the quantized data are obtained

by carrying out DCT on the original data followed by quantization thereof.

Kolesnik et al. discloses an image data compression method which initially

decomposes an image signal (fig. 1 blocks 105 and 110 and col. 4 lines 49-55)

before it is quantized to undergo data compression. Kolesnik et al. further

discloses that alternative methods can be used to decompose a signal (Kolesnik

et al.; col. 4 lines 64-67). Kolesnik et al. does not disclose to use DCT as one

method to decompose the signal before quantization. Nafarich teaches to

perform DCT on a image signal before quantization followed by coding and lastly

compression (Nafarich; fig. 4 blocks 102,104F,408F,110, and 114). It would have

been obvious to one skilled in the art to combine the teaching of Nafrich to that of

Kolesnik et al. because they are analogous in data quantization, coding, and

compression. On skilled in the art would have been motivated to substitute the

DCT decomposition unit of Nafarich for the wavelet transform decomposition unit

of Kolesnik et al. to create longer strings of zero-value coefficients which enables

greater data compression (Nafarich; col. 1 lines 62-67).

Regarding claim 19: As for the limitation of a computer readable recording

medium used to perform limitations above (Kolesnik et al.; fig. 14 blocks 1405,

1410, and 1450).

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection

presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**.

See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as

set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire

THREE MONTHS from the mailing date of this action. In the event a first reply is
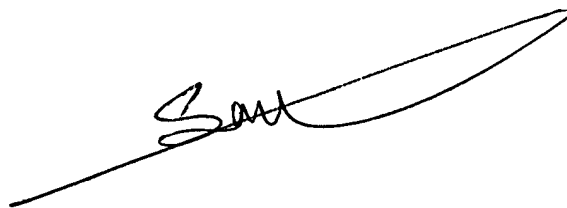
filed within TWO MONTHS of the mailing date of this final action and the advisory

action is not mailed until after the end of the THREE-MONTH shortened statutory

period, then the shortened statutory period will expire on the date the advisory

action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

calculated from the mailing date of the advisory action. In no event, however, will

the statutory period for reply expire later than SIX MONTHS from the date of this

final action.

11.   Any inquiry into this communication should be directed to Anand

Bhatnagar whose telephone number is 703-306-5914, whose supervisor is

Amelia Au whose number is 703-308-6604, group receptionist is 703-305-4700,

and group fax is 703-872-9314.

Anand Bhatnagar

Art Unit 2623

October 29, 2002

SAMIR AHMED
PRIMARY EXAMINER